

### **REMARKS**

Claims 1, 2, 4, 5, 8, 9, 11 and 12 are pending and under consideration in the above-identified application. Claims 3, 6, 7, 10, 13 and 14 were previously cancelled.

In the Office Action of March 21, 2011, claims 1, 2, 4, 5, 8, 9, 11 and 12 were rejected. In the Advisory Action of July 11, 2011, the Examiner did not enter the prior response and upheld these rejections.

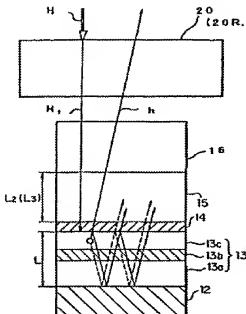
With this Amendment, 1, 2, 8 and 9 are amended.

#### **I. 35 U.S.C. § 103 Obviousness Rejection of Claims**

Claims 1, 2, 4, 5, 8, 9, 11 and 12 were rejected under 35 U.S.C. § 103(a) as being unpatentable over *Yamada et al.* (US 7,102,282). Applicant respectfully traverses this rejection.

In relevant part, each of the independent claims 1, 2, 8 and 9 recite (a) a resonator structure comprising, stacked in this order, a first electrode on the driving substrate, an electron hole transport layer on the first driving substrate, a light emitting layer on the electron hole transport layer, an electron transport layer on the light emitting layer, and a second electrode on the electron transport layer, and (b) a color filter disposed directly on the second electrode where the first electrode and the second electrode both reflect outside light at substantially the same strength and approximately inverted phases.

This is clearly unlike *Yamada* which fails to disclose this feature. Instead, *Yamada* discloses a first electrode 12, an organic layer 13, a semi transparent reflection layer 14, a second electrode 15, a passivation film 16 and a color filter 20 as shown below: See, U.S. Pat. No. 7,102,282, Col. 6, l. 18-Col. 7, l. 12.



As the figure depicts, Yamada discloses a second electrode 15 and passivation film 16 between the semitransparent reflection layer 14 and the color filter 20. See, *Id.* Accordingly, Yamada discloses a different structure than the claims. Further, nowhere does Yamada disclose the first electrode and second electrode reflecting light at approximately the same strength and approximately inverted phases.

In the Advisory Action of July 11, 2011, the Examiner states “Yamada teaches that the very same equation that the Applicant claims accomplishes the phase requirement as outlined by Yamada in the abstract.” See, Advisory Action of July 11, 2011. This is a misinterpretation of Yamada which specifically discloses:

“ $\Phi$  is derived as follows. This is, first stacked on a substrate (for example, Si substrate) is the reflection layer (Cr, or the like) or a semitransparent reflection layer (Mg, Ag, Mg-Ag alloy, or the like) to a thickness not thinner than 200 nm. Then using a spectroellipsometric apparatus (for example, a product of the manufacturer SOPRA), reflective index  $n$  and absorption coefficient  $k$  of the reflection layer or semitransparent layer is determined.

The phase shift of the semitransparent reflection layer can be similarly calculated by using its  $n$  and  $k$ , as well as refractive index  $n$  of the organic layer in contact with the semitransparent reflection layer, thickness of the semitransparent reflection layer, refractive

indices and thicknesses of respective transparent films over it” See, U.S. Pat. No. 7,102,282, Col. 7, l. 49-66.

Accordingly, Yamada only discloses determining the phase shift of the semitransparent reflection layer without disclosing anything pertaining to the relationship of the phase of the first electrode to the semitransparent reflection layer. Also, Yamada includes a second electrode layer and a passivation layer in addition to the semitransparent reflection layer. Accordingly, the equation of Yamada, while reciting the same variables, is not applied in the same manner as in the claims.

In addition, the Examiner also states, “Yamada teaches at col. 12, lines 48-64 that the cavity region should be minimally reflective at the wavelength of incident outside light. Thus both electrodes should be of the same, substantially low reflectance for outside light.” See, Advisory Action of July 11, 2011. By making this assertion, the Examiner is reading more from Yamada than Yamada discloses. Yamada states the following:

“The wavelength range of the light  $h$  to be extracted from each organic layer 13 preferably coincides with the wavelength range in which each color filter 20 exhibits the highest transmittance.

In the organic EL device with this configuration, among external light  $H$  irradiated from the display surface side (surface nearer to the color filter 20), only light  $H1$  near the peak wavelength  $\lambda$  of the spectrum to be extracted from the organic EL device can transmit the color filter 20 and reaches the cavity portion (organic layer 13 in this case), and external light with other wavelengths is prevented from intruding inside the color device beyond the color filter.

Since the cavity portion (i.e. organic layer 13) is a narrow-band-pass filter that transmits light near a peak wavelength  $\lambda$  to be extracted, its transmittance for the external light  $H1$  near a peak wavelength  $\lambda$  is very high. That is, reflectance to the external light  $H1$  is very low. Therefore, external light  $H1$  near the peak wavelength  $\lambda$  intruding the color filter is prevented from reflection in the organic layer 13 and from passing through the color filter to radiate externally.” See, U.S. Pat. No. 7,102,282, Col. 12, l. 48-64.

Accordingly, Yamada only discloses the organic layer having a low reflectance without disclosing anything pertaining to the reflectance of the first electrode and the semitransparent

reflection layer. It is unclear how an organic layer with low reflectance of outside light could possibly be viewed as disclosing a first electrode and the second electrode that both reflect outside light at substantially the same strength and approximately inverted phases. It appears the Examiner is improperly attempting to draw more from Yamada than Yamada discloses in an improper attempt to maintain the rejection.

As the Applicant's specification teaches, by providing a resonator structure comprising a first electrode on the driving substrate, an electron hole transport layer on the first driving substrate, a light emitting layer on the electron hole transport layer, an electron transport layer on the light emitting layer, and a second electrode on the electron transport layer, each stacked in this order and a color filter disposed directly on the second electrode where the first electrode and the second electrode both reflect outside light at substantially the same strength and approximately inverted phases, reflection of outside light is reduced and image quality is improved. See, U.S. Pat. Pub. No. 2004/0156405, Para [0053]-[0056].

Therefore, because *Yamada* fails to disclose or even fairly suggest all of the features of claims 1, 2, 8 and 9, the rejection of claims 1, 2, 8 and 9 cannot stand. Because claims 4, 5, 11 and 12 depend either directly or indirectly from claims 1, 2, 8 and 9, they are allowable for at least the same reasons as claims 1, 2, 8 and 9.

## **II. Conclusion**

In view of the above amendments and remarks, Applicant submits that all claims are clearly allowable over the cited prior art, and respectfully requests early and favorable notification to that effect.

Respectfully submitted,

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